

REMARKS

Claims 1-8 were pending previous to the amendments above. After that, claims 1 - 8, 10, 13 - 18, and 25 - 38 are pending. Claims 1, 13, 25, and 27 are the now pending independent claims. They have all been amended to require, among other things, that the insertion member, which can be a screw, peg, opening cover or other device, includes a rounded nonfrustoconical contact surface adapted to contact the frustoconical taper section of the opening in the prosthesis or cup; that these differently-shaped surfaces contact each other when the insertion member is inserted into the opening, and that the insertion member is accordingly adapted to fit the opening of the prosthesis or cup in a substantially fluid – tight relationship, at a plurality of angular orientations between the insertion member and the opening, so that the head of the insertion member does not protrude beyond the first surface.

The Examiner's Action applied USPN 6,227,121 to Khalili ("Khalili") and USPN 5,925,077 to Williamson, et al ("Williamson") as references under 35 U.S.C. §102. As a preliminary matter, Khalili and Williamson both address approaches to designing openings and screws, plugs and similar structures for acetabular cups and similar prosthetic devices which differ from devices and processes of applicants' invention.

Khalili seeks to solve the problem of the head of a screw inserted in the opening of an acetabular component later backing out of the opening to impinge against the typically plastic liner and thereby causing fretting of the liner and/or possibly catastrophic failure of the liner. (e.g., Khalili col. 1, line 35 - col. 2, line 5.) That is one of the issues mentioned in the present application (page 7, line 19 – page 8, line 20), but Khalili seeks to resolve this issue another way. Khaliki seeks to resolve it by inserting into the cup opening a sleeve component 110 into which a screw 108 can then be inserted so that its head is farther away from the liner 104. (e.g. Khalili, col. 3, line 61 - col. 5, line 20.)

Williamson, by contrast, recognizes that some of the openings in a acetabular cup are not going to receive a screw. It accordingly seeks to plug those openings with threaded plugs 16 or dome plugs 18 which can be press fit into the openings, but only in a single angular orientation.

Accordingly, neither Khalili nor Williamson seek to provide a prosthesis with openings that can accommodate more than one type of insertion member (such as a screw, peg, or opening cover) so that each of those types can, at a plurality of angular orientations, fit in the opening in a substantially fluid-tight relationship so that the head of the insertion number does not protrude beyond the surface of the prosthesis.

As an additional matter, the Khalili and Williamson patents both disclose surfaces which are shaped alike to mate with each other, unlike applicants' claimed devices and methods. The Khalili device opening surface, shown by numeral 114, is not frustoconical; it is instead a curved surface of rotation, and it corresponds to the curved surface of rotation 116 forming the mating portion of the sleeve component 110 which is inserted in the opening. In fact, the opening wall 114 is said to mate with a "complementary mating surface 116". (Khalili, col. 4, lines 7-9.) Similarly, the head of Khalili screw 108 features a frustoconical surface which mates with a frustoconical surface of the sleeve component 110. (See e.g., Fig. 7.) Accordingly, nothing in Khalili teaches or suggests an insertion member with a head having a rounded nonfrustoconical contact surface, that therefore differs in shape from the frustoconical surface of the opening, as in all of applicants' claims which require that these rounded nonfrustoconical head surfaces fit with a frustoconical opening surface.

Williamson also discloses complementary shaped surfaces on its plugs and openings. (See e.g. Fig 11A)

In summary, nothing in Khalili or Williamson teaches or suggests a rounded, nonfrustoconical contact surface on the head that contacts a frustoconical surface of the opening so that the insertion member fits in

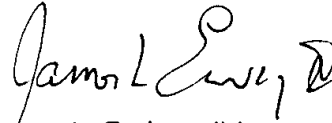
the opening in a substantially fluid tight relationship at a plurality of angular orientations between the opening and the insertion member, whereby the head of the insertion member does not protrude beyond the first or inner surface of the prosthesis or implant, as required in all claims.

Applicants submit in view of the foregoing that the claims as currently amended are neither anticipated or rendered obvious by either Khalili or Williamson. Applicants accordingly respectfully request that the anticipation rejection be reconsidered and withdrawn.

CONCLUSION

Applicants in view of the foregoing respectfully request that currently pending claims 1 - 8, 10, 13 - 18, and 25 - 38 be allowed and a patent issue upon them.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James L. Ewing, IV". The signature is fluid and cursive, with a large initial "J" and a stylized "E".

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